

NOTES ON TWO CALLIMORPHAS.

By HARRISON G. DYAR.

Last Summer Dr. Lintner obtained eggs from some ♀ Callimorphas at Keene Valley in the Adirondacks, and gave them to me to raise. There proved to be two species, *lecontei* and *confusa*.

Haploa lecontei *Guerin.*

Egg.—Resembling the eggs of *confusa* but very pale yellow, and scarcely shining. Reticulations small, close, evident and rounded, casting shadows in the depressions; they differ chiefly from those of *confusa* in being deeper and smaller. Diameter .7 mm. The eggs failed to hatch, though the embryos advanced nearly to the point of biting the shell.

Haploa confusa *Lyman.*

Mr. Lyman has given descriptions of about four stages in Can. Ent., Vol. XIX., p. 186.

Egg.—Spherical with the base a little flattened, adherent; smooth, shining rather dark yellow; reticulations obscure, but becoming evident in certain lights, very narrow, linear, irregular, the meshes moderately large. Diameter .7 mm. Mr. Lyman does not mention the reticulations.

First Stage.—Head shining black over the apices of the lobes, but the whole clypeus pale yellowish; mouth brown; width .35 mm. Body yellowish, the cervical shield black, bisected; warts very large, shining black, each with a single long seta. The arrangement is not exactly that of the mature larva as Mr. Lyman states, because wart vi is lacking. Wart iv is situated directly behind the spiracle, as near to iii as to v. A long seta on the leg-plate.

Second Stage.—Head, cervical shield, anal plate, warts and legs shining black; body whitish with a broad brown dorsal band, extending to wart iii, but paler centrally so as to be almost reduced to two subdorsal bands. Hair black and white mixed, short, bristly; four or more hairs from each wart; wart vi present, elongate, as distinct as the others. Width of head .5 mm. Later, dorsally and laterally whitish, with a yellowish segmental mark just above wart iv; subdorsal bands slaty brown, connecting dorsally in the incisures.

Third Stage (interpolated stage?).—Head black, width .6 mm. A broad, irregular grayish white dorsal line; a blackish subdorsal

band between ii and iii, rather irregular; a broad pale band over iv, marked with yellowish above each wart (iv); a grayish subventral shade over v. Warts and feet black; hair short, stiff, not very abundant, black and white mixed.

Fourth Stage (normal third?).—Head shining black; width .7 mm. Warts black; body brown black; a broad white dorsal line and very narrow subdorsal one (ii); a bright yellow stigmatal line indented a little by iii and iv, between which it runs. Hair short, bristly, inconspicuous, black and white mixed. Feet blackish; venter white in a broad stripe between the feet, interrupted only by black at wart viii on joints 5 and 6.

Fifth Stage (normal fourth?).—Head shining black, width 1.05 mm. Black, a rather broad dorsal line, straight, sordid white, becoming yellowish between warts ii; very narrow subdorsal and subventral, pale, obsolescent lines; a bright yellow stigmatal line, transversely streaked on the folds. Feet black, a broad, defined, pale ventral band, nearly white. Hair short, bristly.

Sixth Stage (interpolated stage).—Black; width of head 1.2 mm. A distinct yellow dorsal and stigmatal line, the latter the broader and composed of transverse streaks on the annulets; traces of a subventral band, whitish; warts large, hair very short but abundant, bristly, black. No subdorsal line, or the merest trace of one. Claspers of abdominal feet pale; venter white.

Seventh Stage (interpolated stage).—Head 1.3 mm. Black, head and warts shining, hair short, bristly. Dorsal line yellow, distinct; stigmatal line broken into four dots on each segment, the anterior and two posterior transverse and yellow, the second longitudinal and white; a few subventral pale yellow dots. Feet black, venter nearly white.

The larvæ showed a disposition to hibernate, but as they had been transferred to the warmer climate of New York they were unable to do so, and after passing two more molts than normal (?) finally died. The calculated widths of head are: .35, .50, (.59), .73, 1.05, (1.24), ((1.36)), 1.5, 2.1 mm.; ratio .70 for the normal series, .84 for the first interpolated stages, one parenthesis, and .91 for the secondary interpolated stage enclosed in two parentheses. Under the most favorable conditions, this larva should have six stages and hibernate in the fourth.